

Notice of Allowability

Application No.

10/811,088

Examiner

Alexis Boateng

Applicant(s)

PLETT, GREGORY L.

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/10/07.
2. ☒ The allowed claim(s) is/are 9, 11 -13, 16, 17 and 21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


BAO Q. VU
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Claim 9 (amended): A method for estimating a maximum discharge power of a battery, comprising:

generating a signal indicative of a present state-of-charge of said battery, utilizing a sensor;

calculating said present state-of-charge of said battery based on said signal, utilizing an arithmetic circuit operably coupled to said sensor;

calculating a maximum discharge current of said battery utilizing said arithmetic circuit based on at least a minimum state of charge limit associated with said battery, said present state of charge of said battery a minimum voltage limit associated with said battery, and of a cell model that is solved by a Taylor series expansion of an open cell voltage of the battery to determine a future output voltage at the battery, such that [a] the future output voltage of said battery does not fall below said minimum voltage limit and a future state-of-charge of said battery does not fall below said minimum state-of-charge limit associated with said battery; and,

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calculating said maximum discharge power based on said maximum discharge current value, utilizing said arithmetic circuit.

In claim 13, line 5, change the line "[an] open" to --the open--.

2. The following is an examiner's statement of reasons for allowance: Claims 9, 11 – 13, 16, 17, and 21 are allowed. As disclosed in the final rejection, **Regarding the amended claim 9**, the prior art does not disclose the combination of, inter alia, generating a signal indicative of a present state-of-charge of said battery utilizing a sensor; calculating said present state- of-charge limit said battery and wherein said cell model is solved by a Taylor expansion series. **Regarding claim 17**, the prior art does not disclose the combination wherein, inter alia, said discrete time-state model is $X_k[m+1] = f(X_k[m], u_k[m])$, $V_k[m] = g(X_k[m], u_k[m])$; wherein $f(*)$ and $g(*)$ are functions to model cell dynamics. **Regarding claim 21**, the prior art does not disclose the combination of wherein $I(\text{dis}, \text{volt})(\text{max}_k)$ is found by looking for i_k that causes equality in $V_k[m] = g(X_k[m+T_J], u_k[m+7])$ wherein $g(*)$ and $u(*)$ is utilized to determine the cell voltage for the cell k at a predetermined time in the future.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexis Boateng whose telephone number is (571) 272-5979. The examiner can normally be reached on 8:30 am - 6:00 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on (571) 272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB


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